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## (54) MOBILE MOPPING AND MOP CLEANING APPARATUS

(71) We, KURT SCHMID KG., a Kommanditgesellschaft organised under the laws of Germany, of, Lorcherstrasse 155, 7066 Waldhausen, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to mobile apparatus for cleaning purposes, of the kind comprising a frame provided with wheels and a draw-bar, a bucket disposed on the frame and press provided on the  
 15 frame, above the bucket for squeezing out wet mops or the like, said press comprising two substantially parallel rotatable rollers between which a mop can be squeezed and can be pulled.

20 Mobile apparatus of the kind referred to is known for washing floors, the mop being dipped into the water-filled bucket and after it has been wiped over the floor, being placed into the press and squeezed  
 25 out, the dirty water running into the bucket.

The invention is concerned with improving such mobile apparatus with respect to the squeezing-out of the mop, i.e. with  
 30 providing a squeezing arrangement which makes it possible rapidly and reliably to squeeze out the mop without the application of any great force.

According to the invention, in a mobile  
 35 apparatus of the kind referred to this is achieved in that one of the rollers is rigidly mounted on the drawbar, while the other roller is mounted on a bracket which is pivotably secured to the frame, for  
 40 movement towards and away from the rigidly mounted roller. By pivoting of the bracket the movable roller can be moved towards the stationary roller and applied

45 the water to be squeezed out of the mop

when the mop is pulled through the nip between the two rollers.

The cleaning apparatus may include both the bucket and a mop provided with a handle and preferably there is on the  
 50 handle a projection by means of which the mop can be suspended on a substantially horizontally extending handle of the draw bar and pivot about this handle, so that the mop can be pulled through between  
 55 the two pressed-together rollers. In this case, the projection can expediently take the form of a tongue which engages at least partially around the handle and which can be clamped securely at some  
 60 suitable place on the handle, for example by a screw.

By pivoting the mop around a part of the draw bar, using the handle as a lever arm, it is possible rapidly and reliably to  
 65 squeeze out the mop without the application of any special force.

By way of example, an embodiment of the invention is explained hereinafter with reference to the accompanying drawing, 70 which shows perspective view of a preferred form of mobile apparatus according to the invention.

The mobile apparatus 10 according to the invention has a frame 12, e.g. a tubular  
 75 frame on which four wheels 14 are mounted. The frame 12 has two lateral parts 66 which are bent over at their front ends 62 and which merge into obliquely  
 80 upwardly and rearwardly extending arms 20. Secured to the lateral parts 66 of the frame 12 is a draw bar 16 which is constructed for example in the form of a U-shaped bracket having side-members 46  
 85 and an approximately horizontally extending handle 18 connecting the two side-members. The draw bar 16 extends approximately vertically and is connected at  
 90 to the lateral parts 66 of the frame 12, for

example by welding. A flat strip 26 is mounted on and extends transversely with respect to the lateral parts 66. At a distance from the strip 26 and extending 5 parallel with it, close to the front ends 62 of the frame 12, there is an angled strip 28 mounted on the lateral parts 66. On the two strips 26, 28 stands a bucket 30 which is so held by the angled strip 28 that it 10 cannot slip forwards. Mounted on the two side members 46 of the draw bar 16, approximately in the upper third of the height of the bucket 30, parallel with the strips 26, 28, there is a strut 32 which supports the rear of the bucket 30. Also 15 provided is a bracket 34, under which the bucket is pushed into the position of use. The bracket is mounted on the draw bar 16 in any suitable manner.

20 Mounted to pivot on hinges 36 on the two arms 20 of the frame 12 is a bracket 38, the pivotal axis of the bracket 38 extending transversely with respect to the lateral parts 66 of the frame.

25 The bracket 38 has two lateral arms 68 (of which only one is shown) which are connected by a transverse arm 42, and also two outwardly directed arms 40 adjacent the ends of the lateral arms 68 and forming a substantially acute angle with the 30 lateral arms 68.

Rotatably supported at the ends of the arms 40 is a roller 48 while a further roller 44, corresponding to the roller 48, is 35 rotatably held and mounted on the side-members 46 of the draw bar 16. The two rollers extend substantially parallel with each other and are disposed somewhat above the edge 60 of the bucket 30. They 40 may consist of any suitable material, e.g. rubber or the like.

As the drawing shows, the roller 44 is rigidly disposed and is located in the vicinity of the rear edge of the bucket, whereas 45 the roller 48, in its inoperative position, is disposed in the vicinity of the front edge of the bucket 30, but can be moved towards the rear roller 44, as indicated by dash-dotted lines at 64. In order to be able to 50 move the roller 48 towards the roller 44 and press it against the latter, it is necessary to pivot the bracket 38 in the direction of the arrow A downwardly about the hinges 36, causing the roller 48 to be 55 moved or pivoted in the direction of the roller 44.

As the drawing further shows, the 60 preferred mobile apparatus includes a mop 52 which, as shown, can be introduced into the interior of the bucket 30. When the mop, which is saturated with water after cleaning a portion of the floor or the like, is to be wrung out, then, as shown in the 65 drawing, the mop is placed inside the

bucket 30, whereupon the bracket 38 is pivoted, for example with the foot, in the direction of the arrow A, causing the roller 48 to be moved towards the roller 44 and 70 press the upper end of the mop against the roller 44. If, then, the mop is pulled away upwardly, the dirty water is squeezed out by the rollers and flows into the bucket, the pressure on the transverse arm 42 of 75 the bracket 48 being maintained.

In order, now, to facilitate pulling the mop through the nip between the rollers, the handle 54 has disposed on it a tongue 56 on which there is a projection 58. By 80 means of the projection 58 which is spaced at a distance from the stem 54, the latter can be loosely suspended on the approximately horizontally extending handle 18 of the draw bar 16. As illustrated, the 85 tongue 56 which engages around the handle 54, is (and this is not shown in the drawing) expediently slotted on one side, so that it can be clamped by a screw and held on the handle by a clamping action. 90 It is so positioned on the handle 54 that when it is suspended on the handle 18 of the draw bar, the upper end of the mop comes to rest just about between the two rollers 44 and 48. If, then, as described 95 above, the two rollers are pressed against each other, it is only necessary to pivot the handle 54 in the direction of the arrow B around the handle 18, whereupon the mop performs a more or less circular movement 100 around the handle 18, being thereby pulled through between the two rollers, the dirty water being squeezed out of the mop as explained above and flowing into the bucket.

The drawing shows the bracket 38 in its 10 inoperative position which is obtained for example by the position of the hinges 36 being so selected that the bracket is moved into the position illustrated under its own weight or due to the weight of the roller. 11 However, it is also possible suitably to position a spring which draws the bracket into the starting position illustrated, so that upon actuation of the bracket in the direction of the arrow A, the force of this 11 spring has to be overcome.

The invention makes it possible simply and rapidly to squeeze out a mop and clean it of dirty water without the operator having to exert and substantial force, 12 which could result in premature fatigue. Due to the use of the handle 54, or a part 13 of the mop, the force needed to pull the mop around the handle 18, the force needed to squeeze out the mop is kept 12 very small.

#### WHAT WE CLAIM IS:—

1. A mobile apparatus for cleaning purposes, comprising a frame provided with 1.

wheels and a draw bar, a bucket disposed on said frame and a press provided on the frame over the bucket for squeezing out wet mops or the like, said press comprising  
 5 two substantially parallel rotatable rollers between which a mop can be squeezed and can be pulled, characterised in that one of the rollers is mounted rigidly on the draw bar while the other roller is mounted on a  
 10 bracket pivotally secured on the frame for movement towards and away from the rigidly mounted roller.

2. A mobile apparatus according to Claim 1, including a mop provided with a  
 15 handle, characterised in that the draw bar has a substantially horizontally extending handle and the mop handle has a projection by means of which it can be suspended from said handle of the draw bar and can pivot around this latter, the  
 20 handle and the rollers being so arranged that pivoting of the mop handle around

the draw bar enables the mop to be pulled through the nip formed between the rollers when pressed together. 25

3. A mobile apparatus according to Claim 3, characterised in that the projection is constructed in the form of a tongue which can be clamped rigidly on the mop handle. 30

4. A mobile apparatus according to any preceding claim, characterised in that the bucket is supported on its rear side by a strut disposed on the draw bar.

5. A mobile apparatus substantially as 35 hereinbefore described and as shown in the accompanying drawing.

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Mobile bucket and mop for cleaning purposes - has mop press formed by two rotatable wheels for easy squeezing

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The mobile cleaning appts., comprises a frame having a draw bar, wheels a bucket and a press for squeezing out a mop; the press comprising two parallel rollers, one (44) being rigidly mounted on the draw bar while the other is mounted on a bracket pivoted to the frame for movement towards and away from the fixed roller. Pref. the draw bar has a horizontal handle and the mop handle has a projection for suspending it from the handle so that the mop handle can be pivoted about the draw bar handle to pull the mop through the nip of the rollers. 10.4.74. as 015972 (4pp).

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1 SHEET

COMPLETE SPECIFICATION

This drawing is a reproduction of  
the Original on a reduced scale.

